SWIS # 25 AA-0001

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 88-037

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF MODOC
ALTURAS CLASS III LANDFILL
MODOC COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. The County of Modoc (hereafter Discharger) submitted a Report of Waste Discharge, dated 2 November 1987. A Ground Water Monitoring Plan was submitted on 21 July 1987.

2. The Report of Waste Discharge requests revised waste discharge requirements for reclassification of the existing II-2 disposal site to a Class III landfill and an unclassified surface impoundment. The waste management units (WMUs) are currently regulated by Waste Discharge Requirements Order No. 80-036, which is no longer in conformance with the California Code of Regulations (CCR), Title 23, Chapter 3, Subchapter 15 (hereafter Subchapter 15).

3. The 162-acre disposal site, comprising Assessor Parcel Number 022-130-40, is owned and operated by the Discharger. Waste disposal activities currently encompass 50 acres of the site. The remaining 112 acres are set aside for future expansion. The site is 1.5 miles southwest of Alturas in Sections 22 and 23, T42N, R12E, MDB&M, as shown on Attachment "A" which is incorporated herein and made part of this Order.

4. The Discharger proposes to continue to discharge wood waste, commercial and household refuse, and demolition waste into a Class III landfill designated WMU No. 1, as shown on Attachment "B" which is incorporated herein and made part of this Order. These wastes have been classified as 'non-hazardous solid wastes' or 'inert wastes' using the criteria set forth in Subchapter 15.

5. WMU No. 1 consists of a cut-and-cover landfill. Approximately 150 cubic yards per day of uncompacted waste are deposited into trenches and covered on a 48-hour basis. Cover material is obtained on-site. Waste is deposited between 4,440 feet and 4,360 feet elevation above mean sea level (MSL). The site has an estimated total capacity of 1,600,000 cubic yards with approximately 870,000 cubic yards remaining. The remaining useful life of the landfill is currently estimated at 15 years.

6. The Discharger proposes to continue to discharge septage and toilet vault wastes to an existing 30x100x10 foot surface impoundment as shown on Attachment "B". The surface impoundment has been designated as "unclassified" pending the results of chemical analyses to determine the need to retrofit or close in accordance with Subchapter 15.

7. Land within 1,000 feet north of the site is utilized by the Modoc National Wildlife Refuge. The land to the east, south, and west is used for dry land farming and grazing.

8. The site is underlain by volcanic deposits belonging to the Warm Springs Tuff member of the Alturas Formation. These deposits include loose, unconsolidated clayey sands, gravels, tuffs, and breccias. A thin veneer of soil (1 to 2 feet) exists over the site. The tuffs and breccias are workable with heavy equipment and contain the waste disposal trenches. No data on the permeability of the Warm Springs Tuff at the site exist; however, field observations indicate it may be relatively high and influenced locally by cracks and fissures.

9. Five ground water monitoring wells have been installed around the landfill, as shown on Attachment "B". Water level data indicate the uppermost ground water surface occurs between 4,355 and 4,340 feet elevation MSL, approximately 65 to 80 feet below the present disposal area. Analyses of water from the monitoring wells indicate downgradient well OB-2 is consistently higher in specific conductivity, total dissolved solids, and chlorides than the other wells. Analyses for organics in OB-2 (EPA methods 601, 602, and 625) showed no detectable concentrations. Analyses for the EPA Priority Pollutant Metals showed no difference between OB-2 and an upgradient well OB-5. Ground water flow is to the north toward the Pit River. There is currently no use of the ground water between the landfill and the Pit River.

10. The beneficial uses of ground water are municipal, agricultural, and industrial supply.

11. The site receives an average of 10 inches of precipitation per year, with over 90 percent occurring between October and May. The average annual evaporation is approximately 50 inches. Based on these data, the annual net evaporation at the site is 40 inches.

12. The 100-year, 24-hour precipitation event for the site is 3.5 inches as calculated by design storm precipitation data provided by the California Department of Water Resources, Rainfall Depth-Duration-Frequency for California.

13. The site is not within a 100-year floodplain and surface drainage is to the Pit River.

14. The beneficial uses of the Pit River include municipal, industrial, and agricultural supply; recreation; esthetic enjoyment; navigation; electric power generation; and preservation and enhancement of fish, wildlife, and other aquatic resources.

15. The action to update waste discharge requirements for the existing WMUs is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Title 14, CCR, Section 15301.

16. The Board, on 25 July 1975, adopted a Water Quality Control Plan for the Sacramento River Basin (5A) which contains water quality objectives for all waters of the Basin. This Order implements the water quality objectives stated in that Plan. Furthermore, the Order implements the prescriptive standards and performance goals of Subchapter 15.

17. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

18. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 80-036 be rescinded and the County of Modoc, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. The discharge of 'hazardous waste' and 'designated waste' at this site is prohibited. For the purposes of this Order, the terms 'hazardous waste' and 'designated waste' are as defined in Subchapter 15.

2. The discharge of liquid or semi-solid waste containing less than 50-percent solids to WMU No. 1 is prohibited.

3. The discharge of solid waste containing free liquid or moisture in excess of the waste's moisture-holding capacity to WMU No. 1 is prohibited.

4. The disposal of wastes, other than septage and toilet vault wastes, to WMU No. 2 is prohibited.

5. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or ground water is prohibited.

6. The discharge of waste to ponded water from any source outside of WMU No. 2 is prohibited.

B. Discharge Specifications

1. The treatment or disposal of waste shall not cause pollution or a nuisance as defined in the California Water Code, Section 13050.

2. Wood waste, commercial and household refuse, and other nonhazardous solid wastes shall be discharged only to WMU No. 1.

3. Septage and toilet vault wastes shall be discharged only to WMU No. 2.

4. The public shall be denied access to WMU No. 2 at all times.

5. Two feet of freeboard shall be maintained in WMU No. 2 to prevent overtopping of the surface impoundment from wind action or from precipitation expected during a 100-year, 24-hour storm.

6. Waste materials shall be confined to the WMUs, as shown on Attachment "B".

7. Wastes shall not be discharged below 4,360 feet elevation MSL.

8. The Discharger shall remove and relocate any wastes discharged at this site in violation of this Order.

9. The disposal area shall be protected from any washout, erosion of wastes or covering material, and from inundation which could occur as a result of floods with a frequency of once in 100 years.

10. Precipitation and drainage control systems shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 100-year, 24-hour precipitation conditions as described in Finding No. 12 above.

11. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes.

12. The exterior surface of the disposal area shall be graded to promote lateral runoff of precipitation and prevent ponding.

13. Annually, prior to the anticipated rainy season or by 15 October, any necessary erosion control measures shall be implemented and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the site.

14. Water used for site maintenance shall be limited to the minimum amount necessary for dust control.

15. During the rainy season, when precipitation can be expected, a minimum of one-foot-thickness of low permeability ($1x10^{-6}$ cm/sec hydraulic conductivity or less) cover shall be maintained over all but the active disposal area of the landfill unit. The active disposal area shall be confined to the smallest area practicable based on the anticipated quantity of waste discharged and operational procedures.

16. At closure, the WMUs shall receive a final cover consisting, at a minimum, of a two-foot-thick foundation layer which may contain waste materials, overlain by a one-foot-thick soil layer compacted to attain a permeability of $1x10^{-6}$ cm/sec, and finally by a one-foot-thick vegetative soil layer or an engineered equivalent final cover approved by the Board pursuant to Subsections 2510(b) and (c) of Subchapter 15.

17. Vegetation shall be planted and maintained over the closed WMUs. Vegetation shall be selected to require a minimum of irrigation and maintenance, and shall have a rooting depth not in excess of the vegetative layer thickness.

18. The closed WMUs shall be graded to at least a three-percent grade and maintained to prevent ponding.

19. Areas with slopes greater than 10 percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion.

20. The closure of the WMUs shall be under the direct supervision of a California registered civil engineer or a certified engineering geologist.

21. The closed WMUs shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.

22. The concentrations of waste constituents or indicator parameters in waters passing through the points of compliance shall not exceed the "water quality protection standards" established pursuant to Monitoring and Reporting Program No. 88-037 which is attached to these waste discharge requirements.

C. Provisions

1. The Discharger shall maintain a copy of this Order at the site and make it available at all times to site-operating personnel.

2. The Discharger shall notify the Board, in writing, of any proposed change in ownership or responsibility for construction or operation of the WMUs. The Discharger shall also notify the Board of a material change in the character, location, or volume of the waste discharged. This notification shall be given 90 days prior to the effective date of the change.

3. The Discharger shall maintain legible records of the volume and type of each waste discharged at each WMU and the manner and location of discharge. Such records shall be maintained at the site until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.

4. The Discharger shall notify the Board within 24 hours of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.

5. Within three months of the adoption of these requirements, the Discharger shall submit to the Board and to the Department of Health Services for approval a report describing a periodic load-checking program to be implemented by the Discharger to ensure that 'hazardous wastes' and 'designated wastes' are not discharged to the Class III landfill, including the surface impoundment (WMU No. 2).

6. Within 180 days of the adoption of these requirements, the Discharger shall submit to the Board general mineral analyses of ground water from each ground water monitoring well. The constituents to be analyzed include calcium, magnesium, sodium, iron, potassium, sulfate, nitrate, chloride, and alkalinity (bicarbonate and carbonate). The data will help define the general water quality in the area and aid in explaining the anomalous data collected in the downgradient well OB-2.

7. Within 180 days of the adoption of these requirements, the Discharger shall submit to the Board analyses of the septage sludge in the septage pond. At least two samples of the sludge shall be analyzed for the EPA Method 8270, formaldehyde, and the EPA priority pollutant metals. If 'Hazardous' or 'designated' concentrations of the respective constituens are found, the surface impoundment will be closed as described in Article 8 of Subchapter 15 or retrofitted as a Class II surface impoundment as described in Article 4 of Subchapter 15.

8. The Discharger shall comply with Monitoring and Reporting Program No. 88-037 which is attached to this Order.

9. If the Discharger or the Board finds there is a significant increase in indicator parameters or waste constituents over the water quality protection standards (established pursuant to Monitoring and Reporting Program No. 88-037) at the points of compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days. Within 90 days, the Discharger shall submit to the Board an amended Report of Waste Discharge for establishment of a verification monitoring program, per Section 2557 of Subchapter 15, which is designed to verify that water quality protection standards have been exceeded and to determine the horizontal and vertical extent of contamination.

10. If the Discharger, through a verification monitoring program, or the Board verifies that water quality protection standards have been exceeded at or beyond the points of compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days. Within 180 days, the Discharger shall submit to the Board an amended Report of Waste Discharge for establishment of a corrective action program, per Section 2558 of Subchapter 15, which is designed to achieve compliance with the water quality protection standards.

11. Within 180 days of the adoption of these requirements, the Discharger shall submit to the Board for approval a closure and post-closure maintenance plan. This plan shall describe the methods and controls used to assure protection of the quality of surface and ground waters of this area during final operation and during any proposed subsequent use of the land. This plan shall include a revenue program to provide sufficient funding for closure and post-closure maintenance. This report shall be prepared by or under the supervision of a California registered civil engineer or certified engineering geologist, updated annually, and submitted to the Board by the 15th day of January of each year. The method used to close the WMU at the site and maintain protection of the quality of surface and ground waters shall comply with waste discharge requirements established by the Board and the most current version of the closure and post-closure maintenance plan which has been approved by the Board.

12. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor ground water, leachate from the landfill units, and surface waters per Monitoring and Reporting Program No. 88-037 throughout the post-closure maintenance period.

13. The post-closure maintenance period shall continue until the Board determines that remaining wastes in the WMU will not threaten water quality.

14. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated 1 September 1985, which are hereby incorporated into this Order.

15. The owner of the waste disposal site shall have the continuing responsibility to assure protection of usable waters from discharged wastes, gases, and leachate generated by the discharged wastes during the active life, closure, and post-closure maintenance period of the WMU and during subsequent use of the property for other purposes.

16. In the event of any change in ownership of this disposal site, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Board.

17. The Discharger shall comply with all applicable provisions of Subchapter 15 that are not specifically referred to in this Order.

18. The Discharger shall comply with all applicable provisions of Subchapter 15 that are not specifically referred to in this Order.

19. The Board will review this Order periodically and may revise requirements when necessary.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 26 February 1988.

William H. Crooks

WILLIAM H. CROOKS, Executive Officer

PVW:gln 1/28/88

Attachments

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 88-037
FOR
COUNTY OF MODOC
ALTURAS CLASS III LANDFILL
MODOC COUNTY

NONHAZARDOUS WASTE MONITORING

The Discharger shall monitor all wastes discharged to the Class III landfill and surface impoundment on a monthly basis and report to the Board as follows:

Parameter	Report in Units of	Sampling Frequency
Type and quantity of solid waste discharged to the Class III landfill	Cubic Yards	Monthly
Type and quantity of liquid waste discharged to the surface impoundment	Gallons	Monthly
Minimum elevation of discharge to WMU Nos. 1 and 2	Feet (MSL)	Quarterly
Capacity of WMU Nos. 1 and 2 remaining	Percent	Yearly

LEACHATE MONITORING

The landfill shall be inspected weekly for leachate generation. Upon detection of leachate, the Discharger shall immediately sample and continue to sample the leachate at the following frequencies thereafter. Leachate samples shall be analyzed for the following parameters:

Parameter	Report in Units of	Sampling Frequency
Flow Rate	gallons/day	Monthly
Chemical Oxygen Demand	mg/l	Monthly
Specific Conductance	umhos/cm	Monthly
pH	pH Units	Monthly
Total Dissolved Solids	mg/l	Quarterly
Chlorides	mg/l	Quarterly
Sulfates	mg/l	Quarterly

LEACHATE MONITORING (Continued)

Parameter	Report in Units of	Sampling Frequency
Dissolved Iron[1]	mg/l	Quarterly
Total Kjeldahl Nitrogen	mg/l	Quarterly
Sulfides (including H_2S)	presence or absence	Quarterly
Volatile Organics[2]	ug/l	Semiannually[3]
Aluminum[1]	mg/l	Semiannually[3]
Antimony[1]	mg/l	Semiannually[3]
Arsenic	mg/l	Semiannually[3]
Cadmium[1]	mg/l	Semiannually[3]
Total Chromium (III+VI)[1]	mg/l	Semiannually[3]
Chromium (VI)	mg/l	Semiannually[3]
Copper[1]	mg/l	Semiannually[3]
Lead[1]	mg/l	Semiannually[3]
Manganese[1]	mg/l	Semiannually[3]
Mercury	mg/l	Semiannually[3]
Nickel[1]	mg/l	Semiannually[3]
Selenium	mg/l	Semiannually[3]
Silver[1]	mg/l	Semiannually[3]
Thallium[1]	mg/l	Semiannually[3]
Zinc[1]	mg/l	Semiannually[3]

[1]Inductively Coupled Argon Plasma Atomic Emission Spectroscopy (ICAP) may be used for analysis of these parameters.

[2]EPA Methods 601 and 602, or EPA Method 624 shall be used. All peaks shall be reported.

[3]In March and September, if liquid is present. If liquid is not present in August, at the first detection of liquid thereafter.

SURFACE IMPOUNDMENT MONITORING

The surface impoundment shall be inspected weekly to assure adequate freeboard exists to prevent overtopping, and that no breaks or cracks in the banks threaten the integrity of the structure. The amount of freeboard (in feet) shall be included in the monthly monitoring report.

GROUND WATER MONITORING

A detection monitoring program to determine both background and downgradient concentrations of indicator parameters and waste constituents shall be implemented for monitoring wells designated OB-1, OB-2, OB-3, OB-4, and OB-5 as shown on Attachment "B". The following chemical constituents will be used as indicator parameters and will be measured when sampling ground water:

Parameter	Report in Units of	Sampling Frequency
Ground Water Elevation	Feet and Tenths	Quarterly
pH	pH Units	Quarterly
Specific Conductance	umhos/cm	Quarterly
Total Dissolved Solids	mg/l	Quarterly
Chloride	mg/l	Quarterly
Nitrate	mg/l	Quarterly
Dissolved Iron	mg/l	Quarterly
COD	mg/l	Quarterly
Tannins and Lignins	mg/l	Quarterly
Volatile Organics[1]	mg/l or ug/l	Semiannually[2]
Metals[1]	mg/l or ug/l	Semiannually

[1]Volatile organics and metals as specified for leachate monitoring shall be sampled.

[2]Samples shall be obtained in March and September.

Quarterly samples from the first year of sampling (two years for volatile organics and metals) from the background monitoring wells OB-4 and OB-5 shall be used by the Board to develop water quality protection standards for ground water at the site. Each time wells OB-4 and OB-5 are sampled, a minimum of two discrete samples shall be taken for analysis of each parameter to determine background water quality. If subsequent sampling of background monitoring wells indicates significant water quality changes due to either seasonal fluctuations or reasons unrelated to waste management activities at the site, the Discharger may request modification of these water quality protection standards.

REPORTING

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly the compliance with waste discharge requirements.

Monthly monitoring reports shall be submitted to the Regional Board by the 15th day of the following month.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, he shall include the results of such monitoring in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall be indicated on the Discharge Monitoring Report Form.

William H. Crooks

WILLIAM H. CROOKS, Executive Officer

26 February 1988

(Date)

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INFORMATION SHEET

COUNTY OF MODOC
ALTURAS CLASS III LANDFILL
MODOC COUNTY

Modoc County owns and operates a solid waste disposal site 1.5 miles southwest of the City of Alturas in Sections 22 and 23, T42N, R12E, MDB&M. On 2 November 1987, the County of Modoc submitted a Report of Waste Discharge requesting reclassification of the landfill from a Class II-2 to a Class III WMU pursuant to Subchapter 15 of the California Code of Regulations, Title 23, Chapter 3.

The landfill opened in 1970 and operated as a burn dump until 1975 when it was converted to a sanitary landfill. In 1980, the County of Modoc requested a revision of waste discharge requirements to allow for the disposal of septage and vault toilet wastes into ponds at the western edge of the site. Presently, the facility consists of a cut-and-fill landfill (WMU No. 1) and an unclassified surface impoundment (WMU No. 2) used for the disposal of septage.

The facility is open seven days a week and accepts nonhazardous solid waste or inert waste generated within the County into WMU No. 1. The waste consists of yard trimmings, wood waste, commercial and household refuse, demolition waste, and tires. The site accepts approximately 160 cubic yards of waste per day and has an estimated remaining life span of 15 years.

The existing surface impoundment receives septage and toilet vault wastes. The impoundment is closed to the public and access is restricted through a locked gate. Two septage haulers have keys to the site and are authorized by the County to dispose of septage and toilet vault wastes into the surface impoundment. The surface impoundment is designated as "unclassified" pending analyses of the pond sludge to determine if 'hazardous' or 'designated wastes' is present. If such waste is found the pond will be closed or retrofitted to meet the provisions of Subchapter 15.

The site is in gentle hills ranging in elevation from 4,440 to 4,360 feet MSL. Surface drainage is northward to the Pit River. The site is underlain by volcanic deposits of the Warm Springs Tuff member of the Alturas Formation. The material beneath the site is composed of breccia and tuff, which exhibit moderate permeability.

Five ground water monitoring wells were installed in April 1987. Measurements indicate the ground water surface is between 4,354 and 4,342 feet elevation MSL, approximately 60 feet below the present working area of the landfill. Ground water analyses indicate a downgradient monitoring well (OB-2) to be significantly higher in total dissolved solids, specific conductivity, and chlorides than the other four wells. EPA Methods 601, 602, and 625 showed no positive readings in an upgradient or the affected downgradient well. Analyses of the EPA priority pollutant metals showed no significant difference between the two wells. Further investigation is needed to determine if the landfill is posing a threat to ground water quality and beneficial uses as indicated by the elevated parameters in well OB-2.

Rainfall at the site averages 10 inches per year, and the average annual evaporation is approximately 50 inches.

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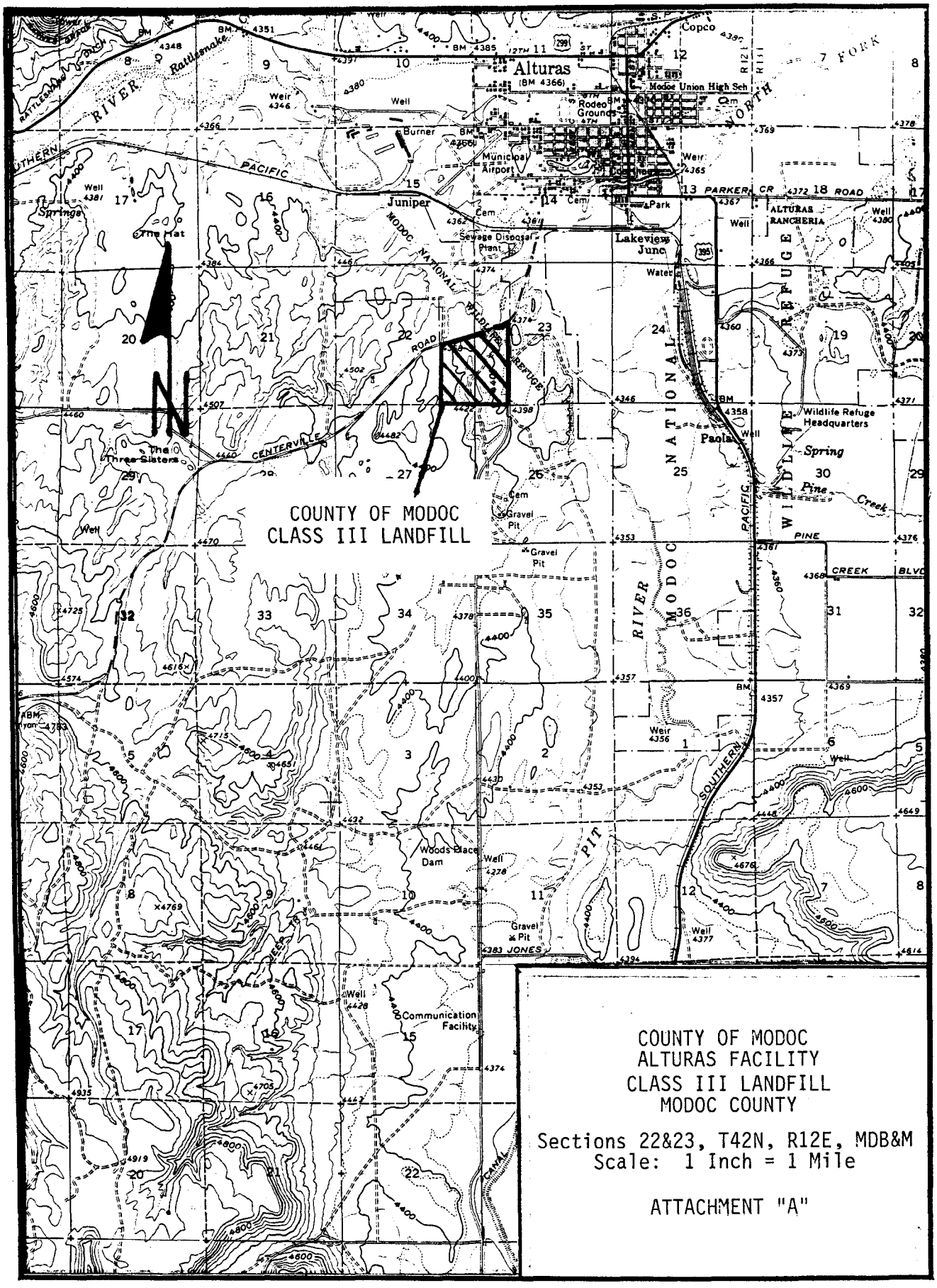
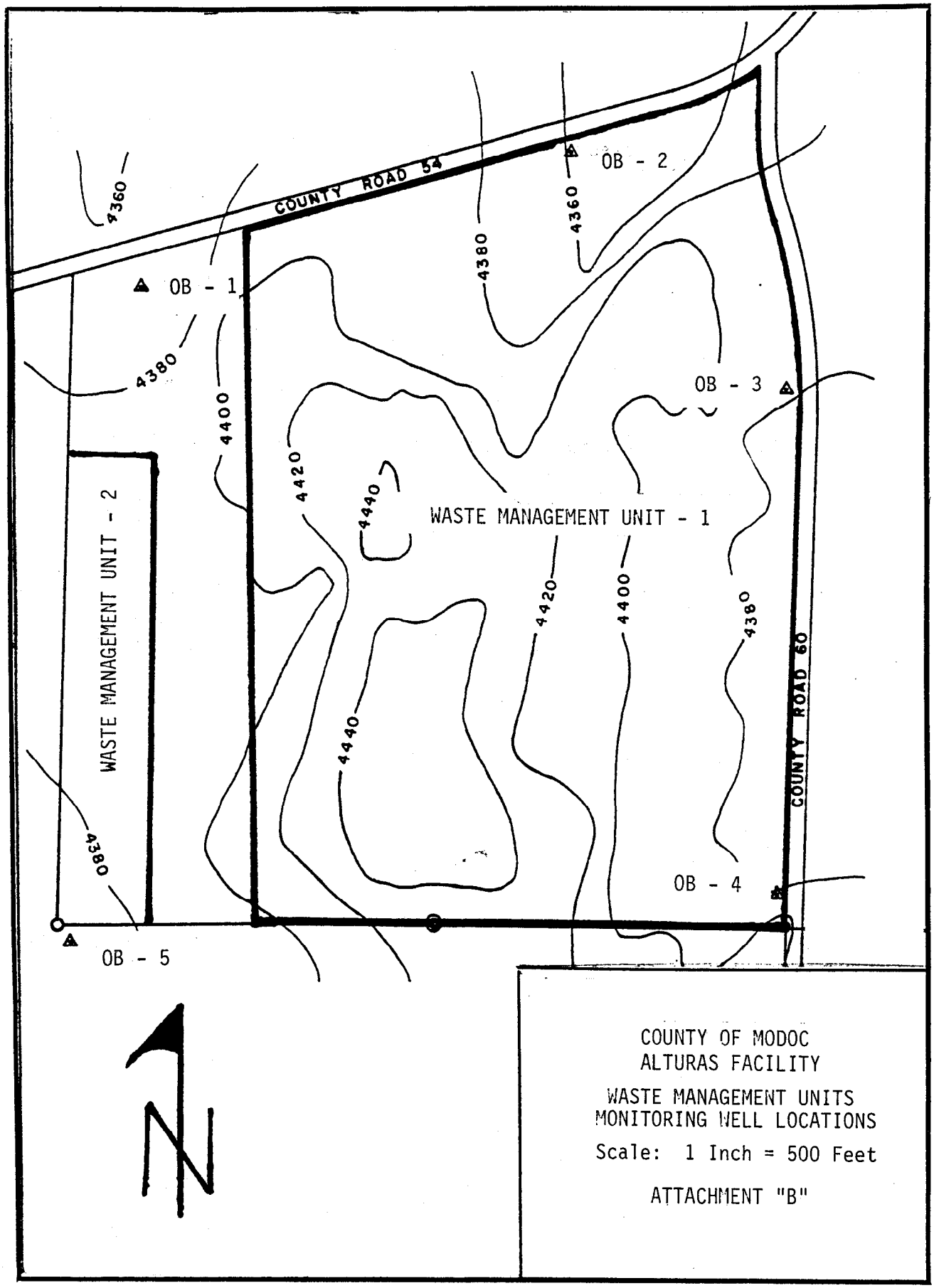


COUNTY OF MODOC
ALTURAS FACILITY
CLASS III LANDFILL
MODOC COUNTY

Sections 22&23, T42N, R12E, MDB&M
Scale: 1 Inch = 1 Mile

ATTACHMENT "A"



COUNTY OF MODOC
ALTURAS FACILITY

WASTE MANAGEMENT UNITS
MONITORING WELL LOCATIONS

Scale: 1 Inch = 500 Feet

ATTACHMENT "B"